United States Department of Agriculture

Research, Education, and Economics
Agricultural Research Service

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Results of the initial sampling (August 27th) of the 2007, First-Stubble, Sugarcane Maturity Test at the USDA-ARS Sugarcane Research Laboratory's Ardoyne Research Farm at Schriever, LA are attached. The first sampling is generally done at the start of the last week in August. The study is designed to examine the natural ripening process and compare the results for the same harvest dates over a 5-yr period (2003 – 2007); consequently, a glyphosate-containing ripener is not applied. Samples consist of 15, hand-cut stalks of clean, trash-free and properly topped cane from each of four replications. **When mechanically harvested, one can expect TRS/TC levels to be 10 to 20% lower as a result of additional trash in the cane.** The study includes eight released Louisiana varieties: LCP 85-384, HoCP 85-845, HoCP 91-555, Ho 95-988, HoCP 96-540, L 97-128, L 99-226, and L 99-233 and the newly released variety HoCP 00-950.

The Ardoyne Farm has received timely rains throughout the growing season, and at the time of this sampling, the crop was not lodged. When averaged over all of the varieties contained in this test since 2003, sugarcane stalks are about average in weight. However, the stalks are 0.2 lbs. lighter and 3 in. shorter than in 2006. Density measurements were begun in 2006. Despite the smaller stalks in 2007, stalk densities are slightly higher for all of the varieties except LCP 85-384 and HoCP 85-845 (rainfall did not occur in the week prior to harvest). The newly released variety HoCP 00-950 has the shortest stalk of the varieties in this test, but its stalk weight is similar to both HoCP 96-540 and L 99-226 and its stalk density similar to both HoCP 91-555 and L 99-226.

Brix, sucrose, and purities are all higher in 2007 than in 2006 at this sampling date, and as a result, the average theoretically recoverable sugar (TRS) levels are nearly 44 lbs./ton of cane (TC) higher in 2007 than in 2006. When one considers the 5-year average; however, TRS levels for these core varieties are at best average for this time of year. LCP 85-384 showed the smallest increase (25.5 lbs.) and HoCP 91-555 the largest increase (72.0 lbs.) in TRS levels over 2006 levels for this sampling time. Of the varieties with major plantings for harvest in 2007, L 97-128 continues to have the highest early TRS levels producing 182 lbs. of sugar/TC; nearly 22 lbs./TC higher than HoCP 96-540. One of the strongest arguments for the release of HoCP 00-950 is its early maturity. As can be seen, HoCP 00-950 has the highest TRS/TC level at 201 lbs., which is 19 and 41 lbs./TC higher than L 97-128 and HoCP 96-540, respectively.

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The second sampling for the maturity test is scheduled for September 10th.

Reminder. If you would like to discontinue your receipt of these reports or if you know of individuals who would like to begin receiving this information in 2007, please contact Mrs. Sandy Roberts by email (sroberts@srrc.ars.usda.gov). Emailing insures address accuracy. Information regarding USDA research activities can also be found on our website: www.ars.usda.gov/msa/srrc/sru .

Maturity reports are prepared by Dr. Ed Richard of the USDA-ARS Sugarcane Research Lab.

Maturity studies on first-stubble cane grown on mixed land at the Ardoyne Farm, USDA-ARS, SRRC, Sugarcane Research Unit, Houma, LA, August 27, 2007[1].

Variety	Year	Stalk[2]				Normal juice[3]			Sugar yield
		Wt.	Lh.	Dia.	Density	Bx.	Su.	Pu.	TRS
		(lb.)	(in.)	(in.)	(g/cm3)	(%)	(%)	(%)	(lb.)
LCP 85-384	2007	1.3	70	0.77	1.05	12.28	8.22	66.90	134.1
	2006	1.7	75	0.82	1.14	10.65	6.84	64.12	108.6
	2005 [4]	---	---	---	---	---	---	---	---
	2004	1.4	77	---	---	---	---	69.72	148.5
	2003	1.2	67	---	---	---	---	70.26	147.4
HoCP85-845	2007	1.5	68	0.86	1.08	13.46	9.94	73.82	172.1
	2006	1.9	82	0.89	1.09	11.51	8.06	70.03	135.5
	2005 [4]	---	---	---	---	---	---	---	---
	2004	1.6	71	---	---	---	---	74.37	175.3
	2003	1.4	57	---	---	---	---	74.78	167.6
HoCP 91-555	2007	1.3	73	0.78	1.11	13.90	9.39	67.44	152.6
	2006	1.3	71	0.77	1.10	11.07	6.32	57.02	90.6
	2005 [4]	---	---	---	---	---	---	---	---
	2004	1.4	71	---	---	---	---	64.24	131.8
	2003	1.2	65	---	---	---	---	72.34	171.8
Ho 95-988	2007	1.8	75	0.87	1.16	12.53	8.30	66.21	134.4
	2006	1.8	74	0.89	1.02	10.62	6.28	58.98	93.5
	2005 [4]	---	---	---	---	---	---	---	---
	2004	---	---	---	---	---	---	---	---
	2003	---	---	---	---	---	---	---	---
HoCP 96-540	2007	1.6	73	0.82	1.17	13.06	9.33	71.43	160.2
	2006	2.0	80	0.91	1.05	11.20	7.30	65.10	118.2
	2005 [4]	---	---	---	---	---	---	---	---
	2004	1.7	74	---	---	---	---	68.98	147.5
	2003	1.5	63	---	---	---	---	71.41	160.2
L 97-128	2007	1.8	80	0.82	1.15	14.48	10.6	73.09	182.3
	2006	2.1	89	0.88	1.05	12.48	8.62	69.04	144.9
	2005 [4]	---	---	---	---	---	---	---	---
	2004	1.8	81	---	---	---	---	73.15	184.0
	2003	1.5	68	---	---	---	---	75.62	195.9
L 99-226	2007	1.6	75	0.84	1.1	13.50	9.61	71.11	164.6
	2006	2.1	78	0.96	1.01	11.44	7.44	64.91	120.2
	2005 [4]	---	---	---	---	---	---	---	---
	2004	---	---	---	---	---	---	---	---
	2003	---	---	---	---	---	---	---	---
L 99-233	2007	1.4	81	0.71	1.21	12.95	8.72	67.31	141.4
	2006	1.6	81	0.75	1.18	10.98	6.78	61.71	104.6
	2005 [4]	---	---	---	---	---	---	---	---
	2004	1.4	81	---	---	---	---	67.61	140.3
(Cont'd)	2003	---	---	---	---	---	---	---	---

Variety	Year	Stalk[2]				Normal juice[3]			Sugar yield
		Wt. (lb.)	Lh. (in.)	Dia. (in.)	Density (g/cm3)	Bx. (%)	Su. (%)	Pu. (%)	TRS (lb.)
HoCP 00-950	2007	1.6	68	0.87	1.11	15.27	11.35	74.29	201.3
	2006	---	---	---	---	---	---	---	---
	2005 [4]	---	---	---	---	---	---	---	---
	2004	---	---	---	---	---	---	---	---
	2003	---	---	---	---	---	---	---	---
Averages[5]	2007	1.5	74	0.79	1.13	13.36	9.36	70.00	157.1
	2006	1.7	77	0.85	1.10	11.11	7.13	64.07	113.2
	2005 [4]	---	---	---	---	---	---	---	---
	2004	1.5	82	---	---	---	---	69.20	151.3
	2003	1.4	72	---	---	---	---	72.40	164.3

[1] Data for each parameter represents the average of four replications of 15 stalks each.

[2] Stalk diameter and density based on a subsample consisting of 8 randomly selected stalks from the 15-stalk sample of each rep.

[3] Brix factor = .8854; Sucrose factor = .8105.

[4] No data taken due to hurricane Katrina for year 2005.

[5] Averages are based only on varieties included in previous year's first-stubble maturity study (LCP 85-384, HoCP 85-845, HoCP 91-555, HoCP 96-540, L 97-128, and L 99-233).